Model MX391 Series Microphones Specification Sheet

MODEL MX391 SERIES MICROPHONES

OVERVIEW

Shure Microflex® MX391 Series microphones are small, surface-mounted electret condenser microphones designed for mounting on conference tables, stage floors, and lecterns. Their high sensitivity and wide frequency range make them especially suitable for picking up speech and vocals in sound reinforcement and recording applications.

FEATURES

- Flat frequency response across the vocal range for uncolored sound
- Interchangeable cardioid, supercardioid, and omnidirectional cartridges that provide optimal choice for each application
- Sleek, low-profile design for unobtrusive appearance
- Balanced, transformerless output for increased immunity to noise over long cable runs

MODEL VARIATIONS

MX391 and MX391W (white) models have an attached 4 meter (12 ft) cable terminated with a 4-pin mini connector and a separate preamplifier. A rubber strain relief is provided for applications where you want to remove the 4–pin mini connector and connect the microphone cable directly to screw terminals in the preamplifier.

MX391LP and MX391WLP (white) models have an attached 4 meter (12 ft) cable terminated with a 4–pin mini connector, but do not include a preamplifier. Instead, the microphone can be connected directly to a Shure wireless body-pack transmitter.

Microflex® boundary microphones come with one of three interchangeable cartridges, as indicated by the model number (found on the bottom of the microphone base).

MX391/C series. Cardioid pickup pattern for general sound reinforcement applications. Pickup angle (–3 dB) = 130°.

MX391/S series. Supercardioid pickup pattern for sound reinforcement applications requiring narrow or more distant coverage. Pickup angle (–3 dB) = 115°.

MX391/O series. Omnidirectional pickup pattern for recording or remote monitoring applications. Pickup angle = 360°.

SPECIFICATIONS

Polar Pattern (Figure 4)

Cardioid (MX391/C, MX391W/C, MX391LP/C, MX391WLP/C)

Supercardioid (MX391/S, MX391W/S, MX391LP/S, MX391WLP/S)

Omnidirectional (MX391/O, MX391W/O, MX391LP/O, MX391WLP/O)

Environmental Requirements

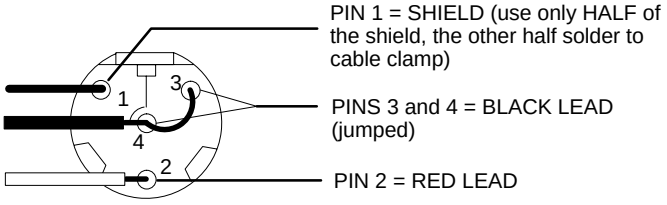
Operating Temperature Range: –18° C to 57° C (0° F to 135° F)

Relative Humidity: 0 to 95%

Dimensions

See Figure 2

Wiring Diagram (Figure 1)


PIN 1 = SHIELD (use only HALF of the shield, the other half solder to cable clamp)
1
3
4
2
PINS 3 and 4 = BLACK LEAD (jumped)
PIN 2 = RED LEAD

WIRING DIAGRAM

Figure 1

PREAMPLIFIER SPECIFICATIONS

These specifications apply only to the MX391/MX391W microphones when used with the supplied preamplifier. All measurements taken with the microphone mounted on a wooden surface 76.2 cm x 76.2 cm (30 in. x 30 in.) and with the sound source incident at 30° with respect to the surface plane.

Frequency Response (Figure 3)

50 to 17,000 Hz

Output Impedance (at 1000 Hz)

Rated at 150Ω (180Ω actual)

Open Circuit Sensitivity

Cartridge Type	1 kHz ref. 1 V per Pascal *
Cardioid	–29.6 dB (33.5 mV)
Supercardioid	–28.3 dB (38.5 mV)
Omnidirectional	–21.5 dB (81.4 mV)

*1 Pascal = 94 dB SPL

Maximum Sound Pressure Level (1 kHz at 1% Total Harmonic Distortion, 1 kΩ load)

Cardioid: 118.8 dB

Supercardioid: 117.5 dB

Omnidirectional: 110.7 dB

Signal to Noise Ratio (referenced at 94 dB SPL)

Cardioid: 71.4 dB

Supercardioid: 72.7 dB

Omnidirectional: 79.5 dB

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Equivalent Output Noise (A-weighted)

Cardioid: 22.6 dB SPL

Supercardioid: 21.3 dB SPL

Omnidirectional: 14.5 dB SPL

Dynamic Range at 1 kΩ Load

96.2 dB

Common Mode Rejection

45 dB minimum, 10 Hz to 100 kHz

Preamplifier Output Clipping Level

–6 dBV (0.5 V)

Polarity

Positive sound pressure on diaphragm produces positive voltage on pin 2 relative to pin 3 of the preamplifier XLR output connector.

Power Requirements

11 to 52 Vdc phantom

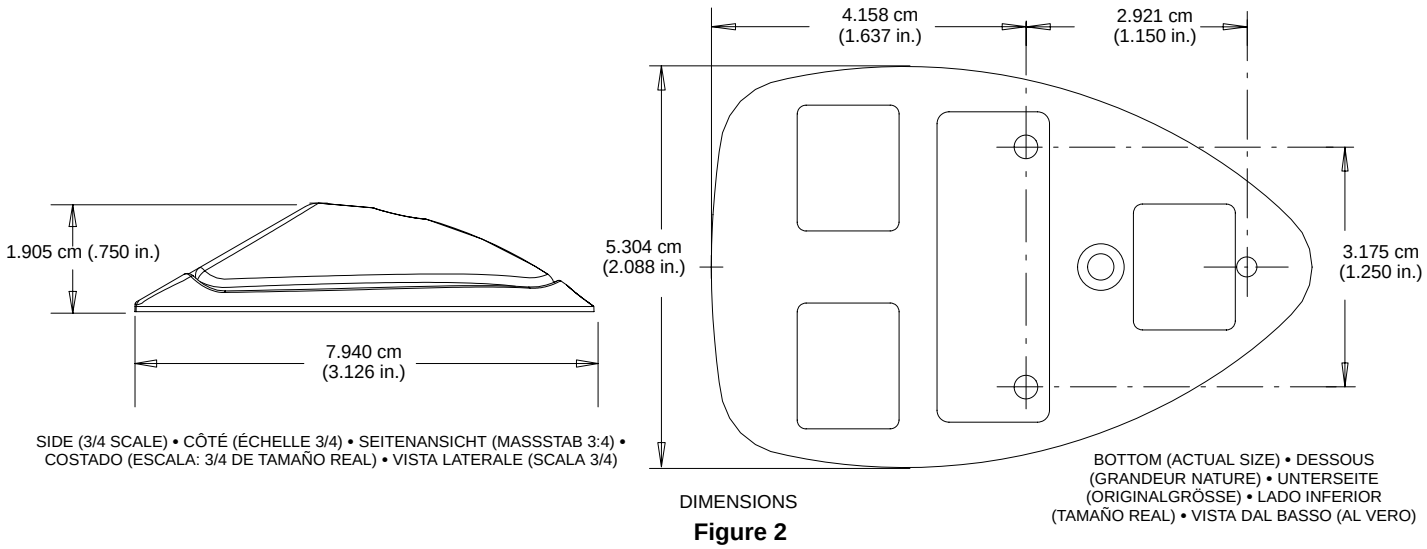
2.0 mA current consumption

Certification

Eligible to bear CE Marking. Conforms to European EMC Directive 89/336/EEC. Meets applicable tests and performance criteria in European Standard EN55103 (1996) parts 1 and 2, for residential (E1) and light industrial (E2) environments.

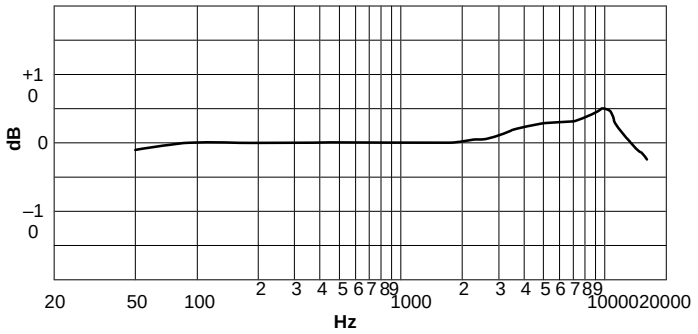
REPLACEMENT PARTS

Omnidirectional Cartridge	R183B
Supercardioid Cartridge	R184B
Cardioid Cartridge	R185B
Preamplifier Kit	RK183PK
Replacement Cable Kit (black)	C123
Replacement Cable Kit (white)	C125

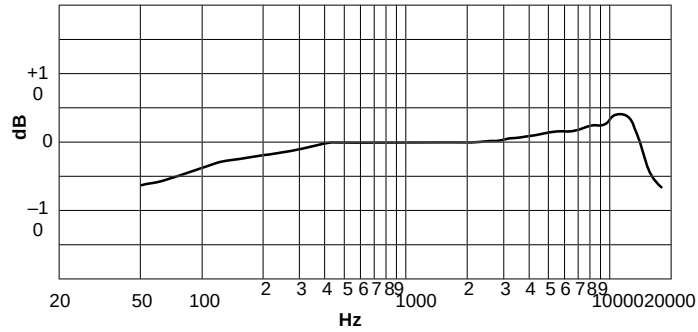

4.158 cm
(1.637 in.)
2.921 cm
(1.150 in.)
1.905 cm (.750 in.)
5.304 cm
(2.088 in.)
3.175 cm
(1.250 in.)
7.940 cm
(3.126 in.)
SIDE (3/4 SCALE) • CÔTÉ (ÉCHELLE 3/4) • SEITENANSICHT (MASSSTAB 3:4) • COSTADO (ESCALA: 3/4 DE TAMAÑO REAL) • VISTA LATERALE (SCALA 3/4)
BOTTOM (ACTUAL SIZE) • DESSOUS (GRANDEUR NATURE) • UNTERSEITE (ORIGINALGRÖSSE) • LADO INFERIOR (TAMAÑO REAL) • VISTA DAL BASSO (AL VERO)

DIMENSIONS

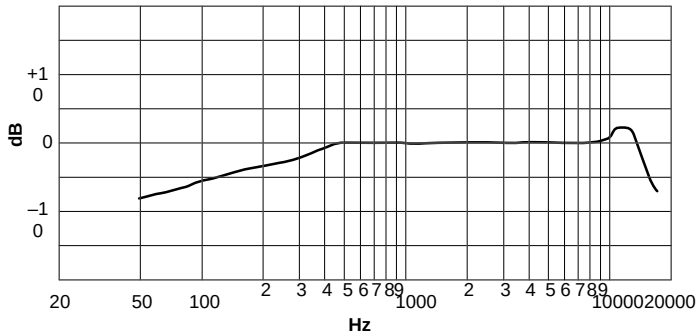
Figure 2



MX391/O



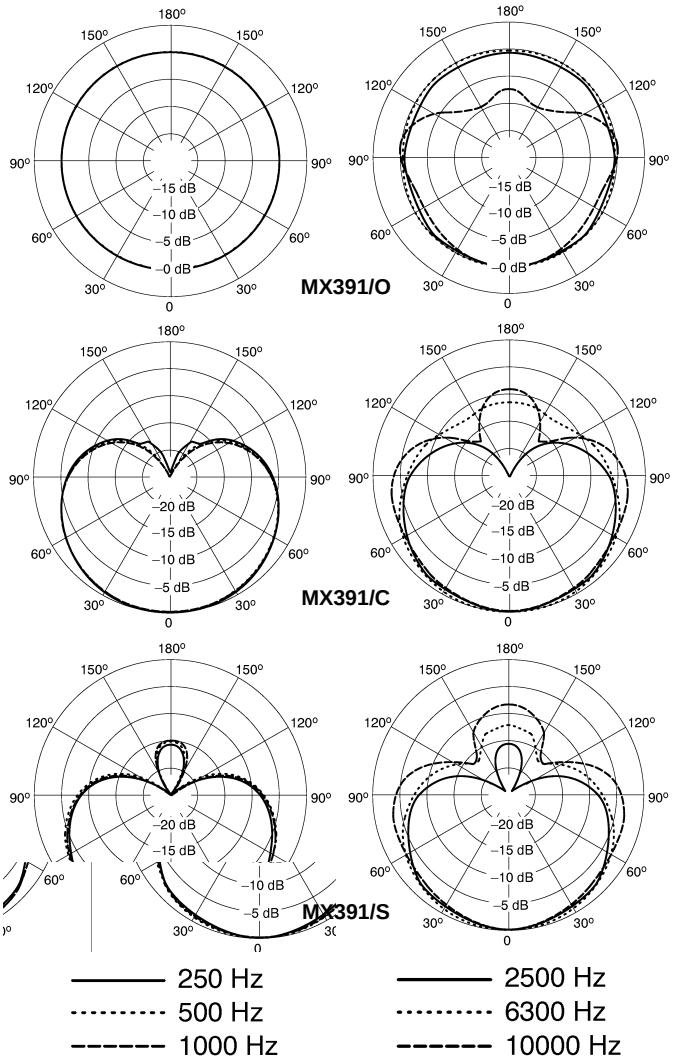
MX391/C



MX391/S

TYPICAL FREQUENCY RESPONSE CURVES

Figure 3



TYPICAL POLAR PATTERNS

Figure 4